REMARKS

Claim 60 remains in the referenced application. Claim 60 has been amended and appended hereto is a marked version of claim 60 illustrating the revision made thereto.

Claims 60 stands rejected under 35 U.S.C. §102(b) by Bethuy et al. (U.S. Patent No. 5,732,563 - hereinafter referred to as Bethuy). Applicant respectfully traverses the above-recited rejection on the basis Bethuy fails to disclose a controller coupled to the first and second probes that outputs a pulse signal received at the first and second probes.

Applicant's microcontroller 51 delivers a pulse signal actually received by the probes 121 and 122. When the probes 121 and 122 are not contacted by liquid in the liquid container the pulse signal delivered by the microcontroller 51 to the probes 121 and 122 is shunted back to the microcontroller 51 indicating an insufficient amount of liquid in the liquid container. Conversely, when the probes 121 and 122 are contacted by liquid in the liquid container, the pulse signal delivered by the microcontroller 51 to the probes 121 and 122 is attenuated to ground via the ground probe 123 indicating to the microcontroller 51 a sufficient amount of liquid in the liquid container. Applicant's microcontroller 51 delivers the pulse signal to the probes 121 and 122 because the application of a pulse signal to the probes 121 and 122 diminishes the plating of impurities contained in the liquid onto the probes 121 and 122.

In contrast and as disclosed in column 8, line 58, through column 9, line 44, with reference to Figure 15, the Bethuy carbonator probe circuitry 146 includes a high water level sensor probe 38a connected to a reference voltage VREXT via a line 182 and a resistor R9. Similarly, the Bethuy carbonator probe circuitry 146 includes a lower water level sensor probe 38b connected to the reference voltage VREXT via a line 184 and a resistor R10. The reference voltage VREXT is a standard constant level 2.5V input delivered from a power supply

commonly used to furnish microcontroller circuitry with power. The signals received by the probes 38a and 38b are therefore not pulse signals but rather constant level 2.5V inputs commonly used with microcontroller circuitry. Applicant accordingly respectfully submits a constant level 2.5V reference voltage delivered to the probes 38a and 38b is not Applicant's pulse signal output to the first and second probes by the controller because a pulse signal offers a variable level voltage signal and not a constant level voltage signal.

Furthermore, in operation and after the buffer U1E is set in an open state, the constant level 2.5V signal is applied to the probe 38a. When the probe 38a is in air, the comparator U6a receives the constant level 2.5V signal and generates a logical "1" received at the microcontroller 140 indicating the probe 38a is in air. When the probe 38a is in water, the constant level 2.5V signal is shunted to ground. The comparator U6a accordingly receives a low signal and generates a logical "0" received at the microcontroller 140 indicating the probe 38a is in water. Similarly, after the buffer U1F is set in an open state, the constant level 2.5V signal is applied to the probe 38b. When the probe 38b is in air, the comparator U6a receives the constant level 2.5V signal and generates a logical "1" received at the microcontroller 140 indicating the probe 38b is in air. When the probe 38b is in water, the constant level 2.5V signal is shunted to ground. The comparator U6b accordingly receives a low signal and generates a logical "0" received at the microcontroller 140 indicating the probe 38b is in water.

Thus, while the comparators U6a and U6b output digital signals to the microcontroller 140, those digital signals are either a constant logical "1" or "0", and a constant logical "1" or "0" is not a pulse signal. Applicant accordingly respectfully submits Bethuy does not disclose a controller receiving a pulse signal from a liquid level monitoring system because the constant logical"1" or "0" disclosed in column 9, lines 34-37, is not a pulse signal. In addition, although

column 10, lines 14-15, disclose pulse outputs to an input pin of the microcontroller 140, those outputs do not anticipate claim 60 because they are generated by a zero-crossing circuit 158 and are used to synchronize a compressor relay T90, which is totally unrelated to Bethuy's carbonator probe level sensing circuitry.

Still further, Applicant respectfully submits Bethuy does not disclose first and second probes that receive a pulse signal because the probes 38a and 38b of Bethuy receive a constant level 2.5V signal. In column 13, lines 24-55, Bethuy discloses the probes 38a and 38b are turned on for less than 4 milliseconds so that a 64 sample set of whether the probes 38a and 38b are in air or water may be read. The probes 38a and 38b are then again turned on for less than 4 milliseconds so that a second 64 sample set of whether the probes 38a and 38b are in air or water may be read. The two 64 sample sets are processed and used to determine whether to activate the carbonator pump. While the probes 38a and 38b are turned on then off twice, Applicant respectfully submits this does not constitute the delivery of a pulse signal to the probes 38a and 38b because, when the probes are on, the reference voltage VREXT still delivers only the constant level 2.5V input and, when the probes are off, they are inactive and are not receiving any signal, which is opposite from the delivery of varying voltage level pulse signal. Applicant accordingly respectfully submits Bethuy does not anticipate claim 60 because Bethuy simply does not disclose the delivery of a pulse signal to first and second probes by a controller as well as the receipt of the pulse signal by the controller under certain conditions.

In view of the foregoing, Applicant respectfully requests reconsideration of the rejected claim and earnestly solicits early allowance of the application.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service "Express Mail Post office to Addressee" service under 37 CFR 1.10 on the dated indicated below, addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Express Mail No. ER 276075171 US Date: 19 June 2003

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AMENDED CLAIMS MARKED TO ILLUSTRATE REVISIONS THERTO

60. (amended) A liquid level monitoring system, comprising:

a first probe extending into a liquid container;

a second probe extending into the liquid container;

a ground probe attached to the liquid container;

a controller coupled with the first probe and the second probe, wherein the controller outputs a pulse signal received at the first probe and the second probe, whereby, when both the first probe and the second probe are not contacted by liquid in the liquid container, the controller receives [a] the pulse signal indicating an insufficient amount of liquid in the liquid container, and, when both the first probe and the second probe are contacted by liquid in the liquid container, the pulse signal is attenuated to ground via the ground probe indicating to the controller a sufficient amount of liquid in the liquid container.